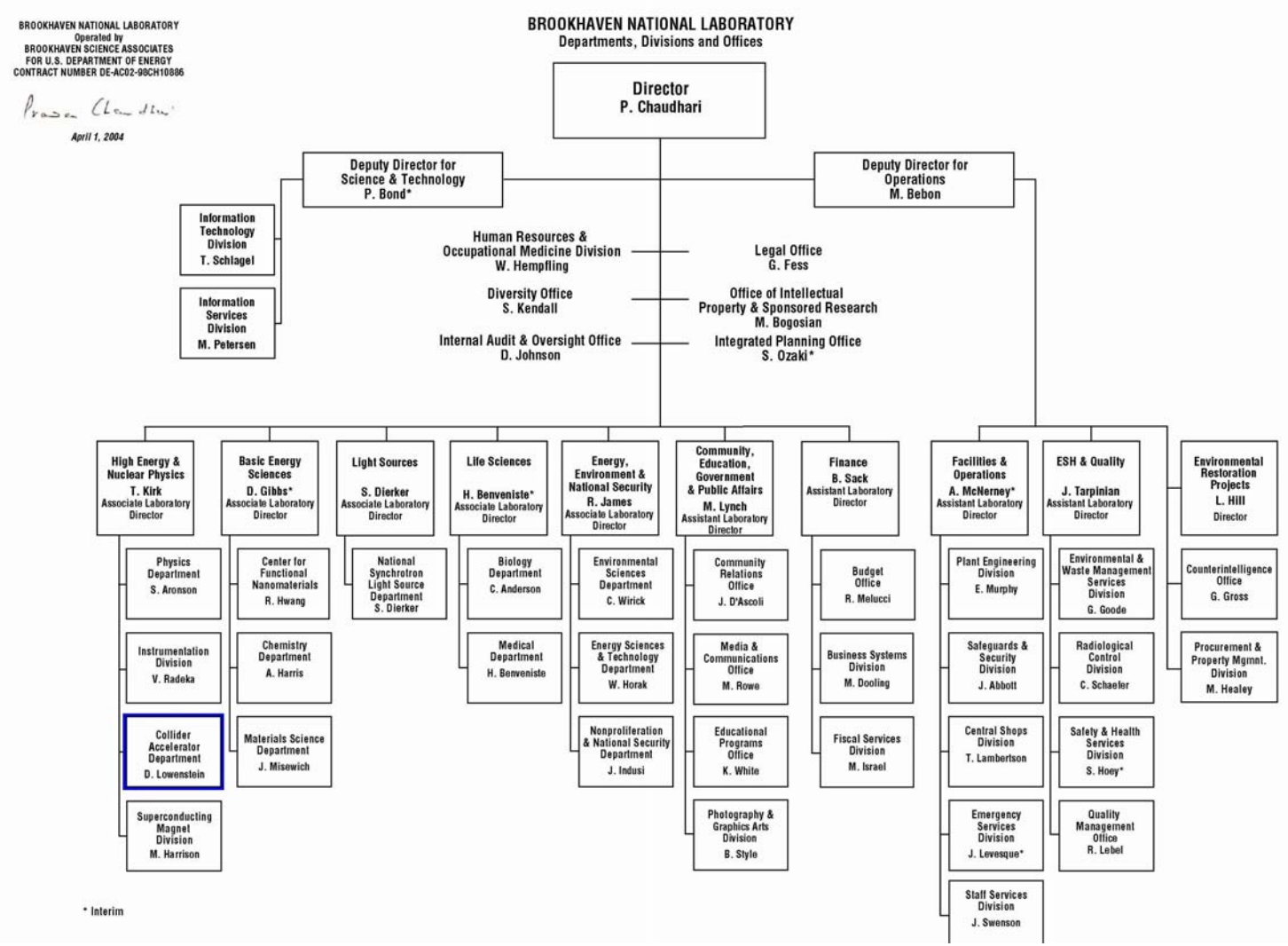
Collider-Accelerator Department Overview

Derek I. Lowenstein

July 22, 2004

Office of Science
U.S. DEPARTMENT OF ENERGY

BROOKHAVEN
NATIONAL LABORATORY



Office of Science
U.S. DEPARTMENT OF ENERGY

BROOKHAVEN NATIONAL LABORATORY

COLLIDER-ACCELERATOR DEPARTMENT
Circa June 2004

Mission: ŅTo develop, improve and operate the suite of particle/heavy ion accelerators used to carry out the program of accelerator-based experiments at BNL; support of the experimental program including design, construction and operation of the beam transports to the experiments, plus support of detector and research needs of the experiments; to design and construct new accelerator facilities in support of the BNL and national missions. The C-A Department supports an international user community of over 1500 scientists. The Department performs all these functions in an environmentally responsible and safe manner under a rigorous conduct of operations approach.Ó

Staff: The Collider-Accelerator Department headcount is:

	Total	NP*	SNS	NASA	Other
Ph.D. Scientists	49	41	6	1	1
Postdoctoral Fellows	6	5	1	0	0
Engineers/Professional	144	114	23	5	2
Designers/Technicians	196	155	32	6	3
Admin./Clerical	24	21	2	1	0
Totals	419	336	64	13	6

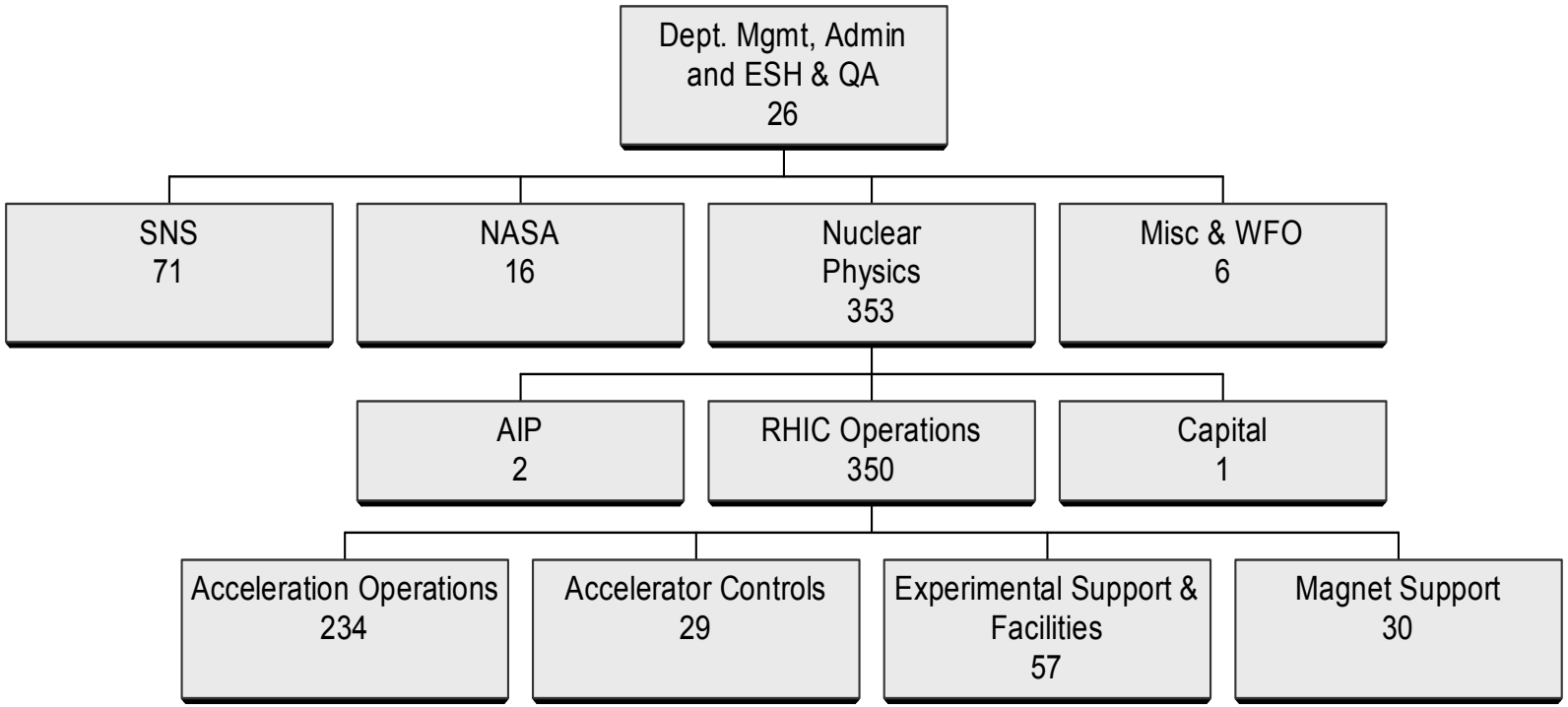
*Does not include ~39 Magnet Division employees charged to NP and SNS.
Additional support ~13 FTEs are purchased as Laboratory assigned trades.

Office of Science
U.S. DEPARTMENT OF ENERGY

BROOKHAVEN NATIONAL LABORATORY

Collider Accelerator Department

(Programmatic FTEs 474)*



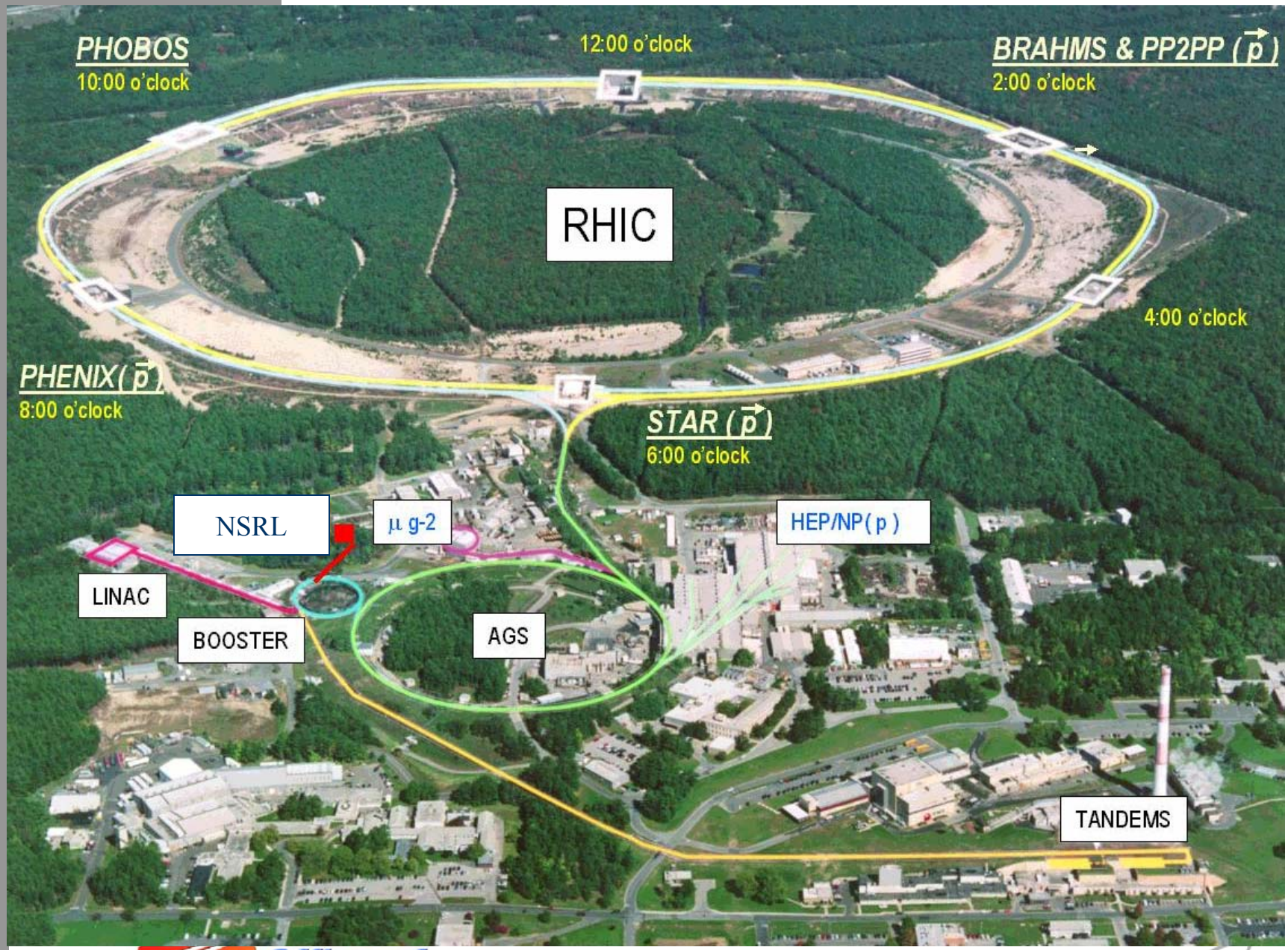
* Reflects FTE data circa June 2004

Office of Science
U.S. DEPARTMENT OF ENERGY

BROOKHAVEN NATIONAL LABORATORY

Funding: Estimated DOE Funding (initial new B/A) for FY 2004 ($M to date) comprises

Fund Type	DOE NP	SNS	NASA	Other	Totals
Operating	92.5	0.0	3.5	2.8	98.8
Equipment	1.8	0.0	0.0	0.0	1.8
Construction/AIP	2.9	11.4	0.0	0.0	14.3
Totals	97.2	11.4	3.5	2.8	114.9



Office of Science
U.S. DEPARTMENT OF ENERGY

BROOKHAVEN NATIONAL LABORATORY

C-AD Program Areas

- **RHIC**
  - Heavy Ion (DOE-NP).
  - Polarized Proton (DOE-NP).
- **AGS**
  - RSVP (NSF HEP (Pending), $12M/year operations).
  - Radiobiology (NASA, conjunction with NSRL).
- **Tandem**
  - Commercial Users ($1M yearly sales).
- **Linac**
  - Isotope Production (DOE-NE)
- **Booster**
  - NASA Space Radiation Laboratory (NASA, $5.5M/year, incl. $2M for Medical and Biology Departments).

C-AD Program Areas

- **Projects**
  - Spallation Neutron Source (DOE-BES, complete FY 2005, $118M)
  - RSVP (NSF-pending, start FY 2005, $150M, $35M to C-A)
  - Electron Beam Ionization Source injector (DOE-NP + NASA, start date ? $18M))
  - NSRL second beam line (NASA, FY2006? $15M)
  - Neutrino proposal (under development)
  - Cyclotron Isotope Research Center (DOE-NE,start ? ~$30M)
- **R&D**
  - electron-cooling of ions(DOE NP, BNL PDF, US Navy, AES, Jlab)
    - ZDR being developed
  - stochastic - cooling of RHIC ions
    - Beam studies continue
  - eRHIC design (Bates MIT, Novosibirsk)
    - ZDR completed
  - Polarized He3 source (MIT Bates, Caltech)